Product Data Sheet
February 2015
IP207, Rev DB

Mobrey Squitch 2

Ultrasonic Liquid Level Switch

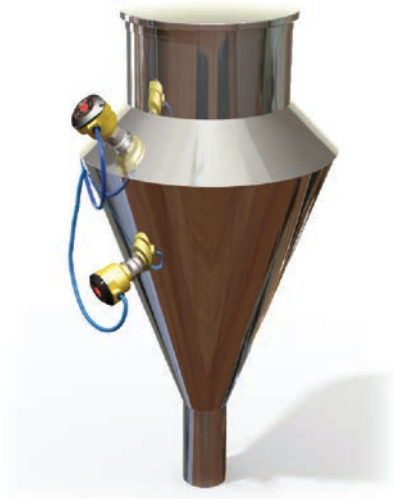
- A compact, self-contained, ultrasonic gap sensor, designed for switching in clean, non-aerated liquids
- BSPT and NPT threaded mounting options
- Can be interfaced directly to a PLC using a simple instrument cable
- Simple two-wire installation
- LED indicator for health status
- 316 Stainless steel wetted parts

mobrey

EMERSON™
Process Management

Mobrey Squitch 2 Level Switch Overview

Threaded Squitch 2



A typical application is point level detection in a wide variety of industries including vegetable oil refineries, confectionery, breweries, food machinery, and pharmaceutical plant.

See "Specification" on page 4 **for technical details.**

Overview

The Mobrey Squitch 2 is a compact, self-contained ultrasonic sensor with a 240 Vac/Vdc switching capability. This switching electronics requires only two electrical connections and can use a simple instrument cable. When connected in series with the load (contactor, starter, relay, etc.), the Squitch 2 acts as a simple switch that is operated by a liquid presence. It may also be interfaced directly to a Programmable Logic Controller (PLC). For this purpose, a dedicated PLC terminal is provided within the housing. The Squitch 2 sensor is for use in non-hazardous areas only. There are a variety of threaded options available, and installation can be in any position on the vessel.

Operation

When a liquid fills the sensor gap, an ultrasonic signal is transmitted across the gap and the presence of liquid is signalled. When the sensor gap is filled with air, there is no signal transmitted and a "dry" state is signalled.

Easy on-site set-up

A selector switch sets the Squitch 2 to energise in either wet or dry conditions.

- When the Squitch 2 is 'off', less than 4.5 mA is drawn through the load and a red LED (viewed through a cover lens) flashes approximately once per second.
- When the Squitch 2 is 'on', the full load current of 0.5 A (maximum) flows and the red LED is lit constantly.

In this way, there is always an indication that the ultrasonic gap sensor is 'alive and well'.

Note

The Mobrey Squitch 2 is not designed to be used in aerated liquids such as carbonated drinks or in liquids with high concentrations of suspended solids such as liquid chocolate. For these applications, vibrating fork technology is recommended – visit the Mobrey brand pages at www.emersonprocess.com for more information.

Features and benefits

- 316 stainless steel wetted parts
- LED status indicator
- May be interfaced directly to a Programmable Logic Controller (PLC), or mounted in pipes for low cost installation
- Low cost, easy to maintain, and no moving parts
- Simple to install Low level fail-safe

Contents

Mobrey Squitch 2 Ordering Information

Table 1. Squitch 2 sensor ordering information

Model	Product Description
8	Mobrey Squitch 2 ultrasonic liquid level switch
Mounting	
30	1-in. BSPT Thread (R 1 in.)
34	1-in. BSPP Thread (G 1 in.)
35	1-in. NPT Thread
Wetside Material	
SD	316L Stainless steel (1.4044)
Housing	
S	Yellow glass-filled nylon housing
Use	
0	Non-hazardous (safe) area use only
Output	
0	Direct load switching (24 to 240 Vac/Vdc)
Wetside Finished	
0	Electro polished
Materials Certificates	
0	Typical (on request only)
Fork Length	
0	Standard Length
Typical Model Number: 8 30 SD S 0 0 0 0 0	

Specification

Construction

Material selection

Emerson provides a variety of Mobrey products with various product options and configurations including materials of construction that can be expected to perform well in a wide range of applications. The Mobrey product information presented is intended as a guide for the purchaser to make an appropriate selection for the application. It is the purchaser's sole responsibility to make a careful analysis of all process parameters (such as all chemical components, temperature, pressure, flow rate, abrasives, contaminants, etc.), when specifying product, materials, options and components for the particular application. Emerson Process Management is not in a position to evaluate or guarantee the compatibility of the process fluid or other process parameters with the product, options, configuration or materials of construction selected.

Wetside material

- 316L Stainless steel (1.4044)

Dryside material

- Glass-filled nylon, housing yellow, black housing cover

Operating conditions

Process temperature

- –40 to 125 °C

Ambient temperature

- –40 to 50 °C

Process pressure

- 0.25 to 20 bar g

Liquid density (SG)

- 0.6 to 2.0

Liquid viscosity

- 0.2 to 10000 cPs

Switching point (H_20)

- 8.5 mm from tip (when installed vertically) or edge (when installed horizontally)

Hysteresis (H_20)

- ±1 mm nominal

Switching delay

- 1 second dry-to-wet/wet-to-dry

Maximum altitude

- 2000 metres

Maximum humidity

- 100% R.H.

Protection class

- IP66/67

Electrical

Switching mode

- User selectable (Dry = on or Wet = on)

Protection

- Reverse polarity protected. Missing load / short circuit protection

Terminal connection (wire diameter)

- Maximum 2.5 mm^2 (Note national regulations)

Cable gland

- Supplied with M16, cable diameter 5 to 8 mm

Earthing

- Squitch 2 should always be earthed to a protective earthing system

Safety EMC

E.M.C. directive

- EN61326 (Emissions) for Class B Equipment
- EN61326 (Immunity) for continuous un-monitored operation in industrial locations
- EN61010-1

L.V. directive

- Pollution degree 2, Category II (264V max)
- Pollution degree 2, Category III (150V max)

Mechanical

Dimensions

- See "Dimensional Drawings" on page 5

Weight

- 0.43 kg (0.95 lb)

Dimensional Drawings

Mobrey SQUITCH 2 dimensions

Note: Dimensions are in inches (mm) unless otherwise stated.